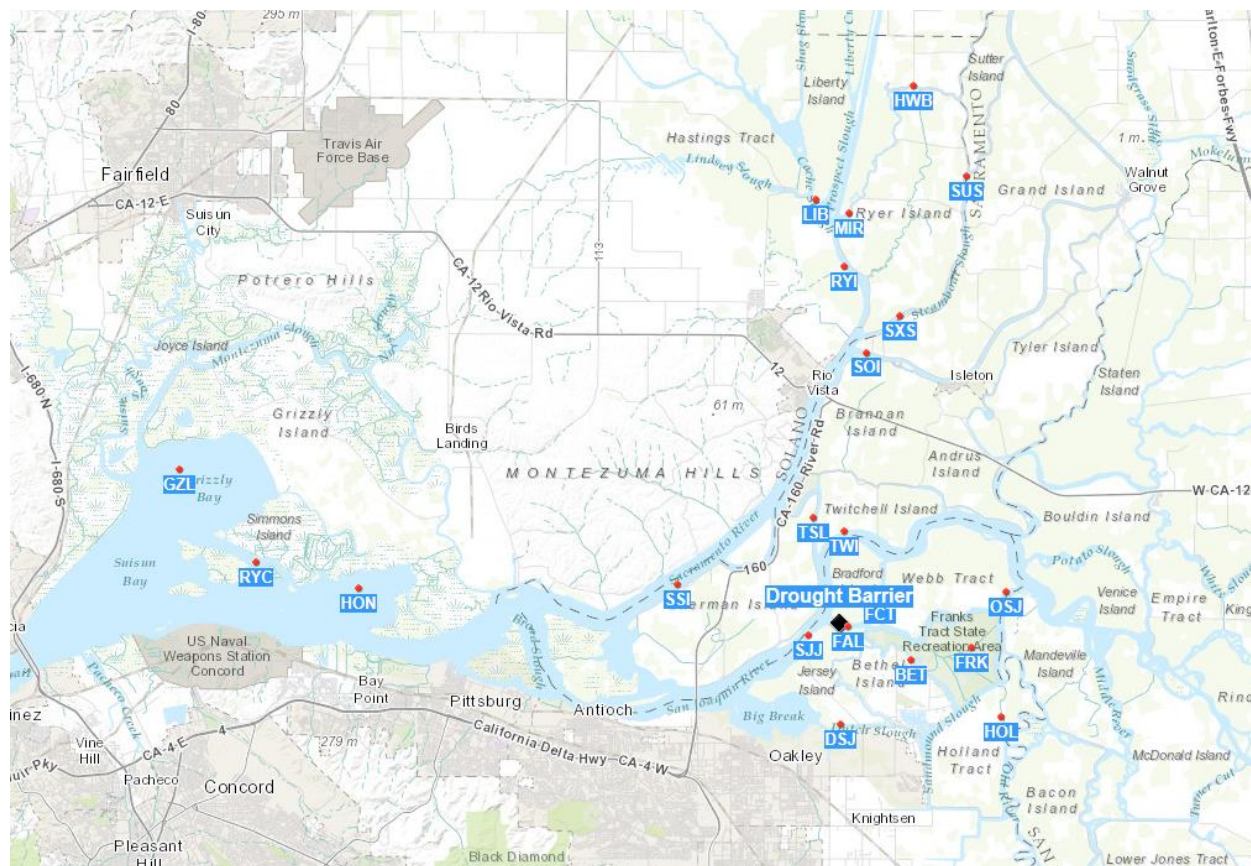


Emergency Drought Barrier Water Quality Monitoring Summary¹

Weekly Update for August 17 through August 23, 2015

Below is a summary of water quality, flow, and velocity data since the hydraulic closure of the Emergency Drought Barrier (EDB) at West False River on May 28, 2015, with emphasis on trends observed during the past week. The EDB rock placement was completed on June 12, 2015. For additional water quality monitoring data, access the network of CDEC stations at the following link:

<http://dwr.maps.arcgis.com/apps/Viewer/index.html?appid=3be5e0bbe0994b76883b0567f4f6b9e3>

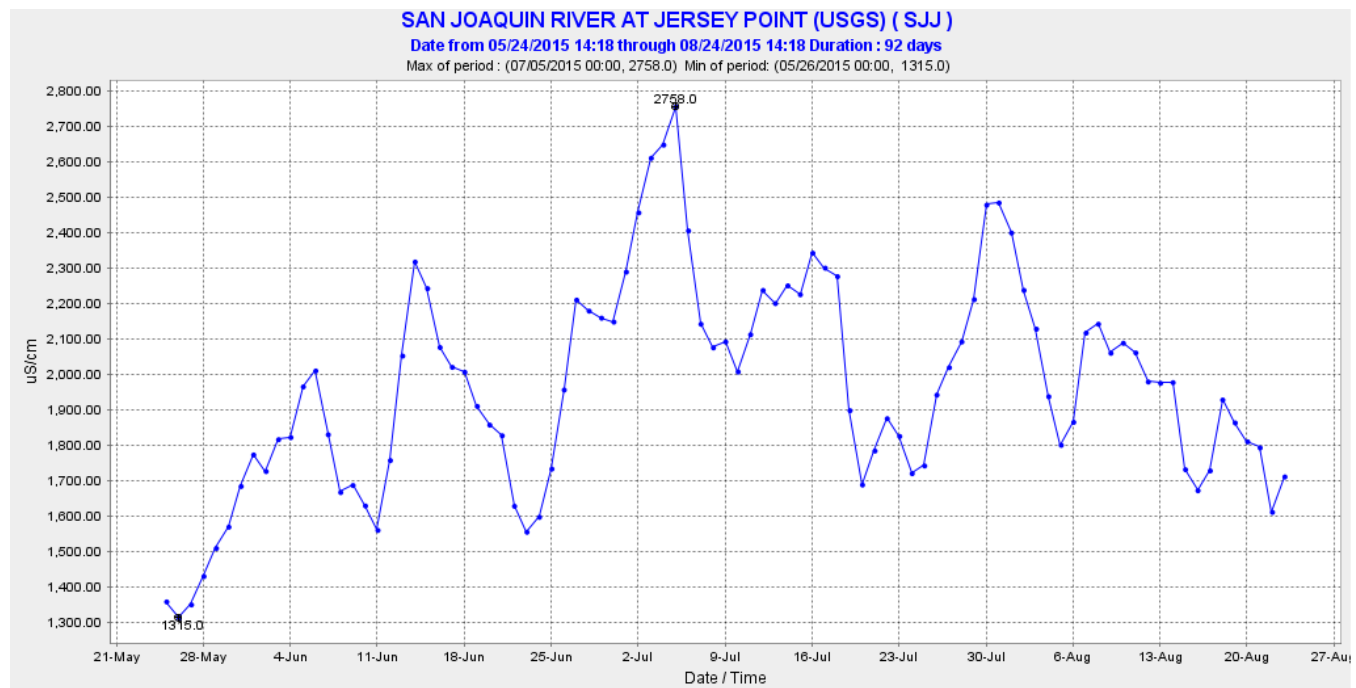
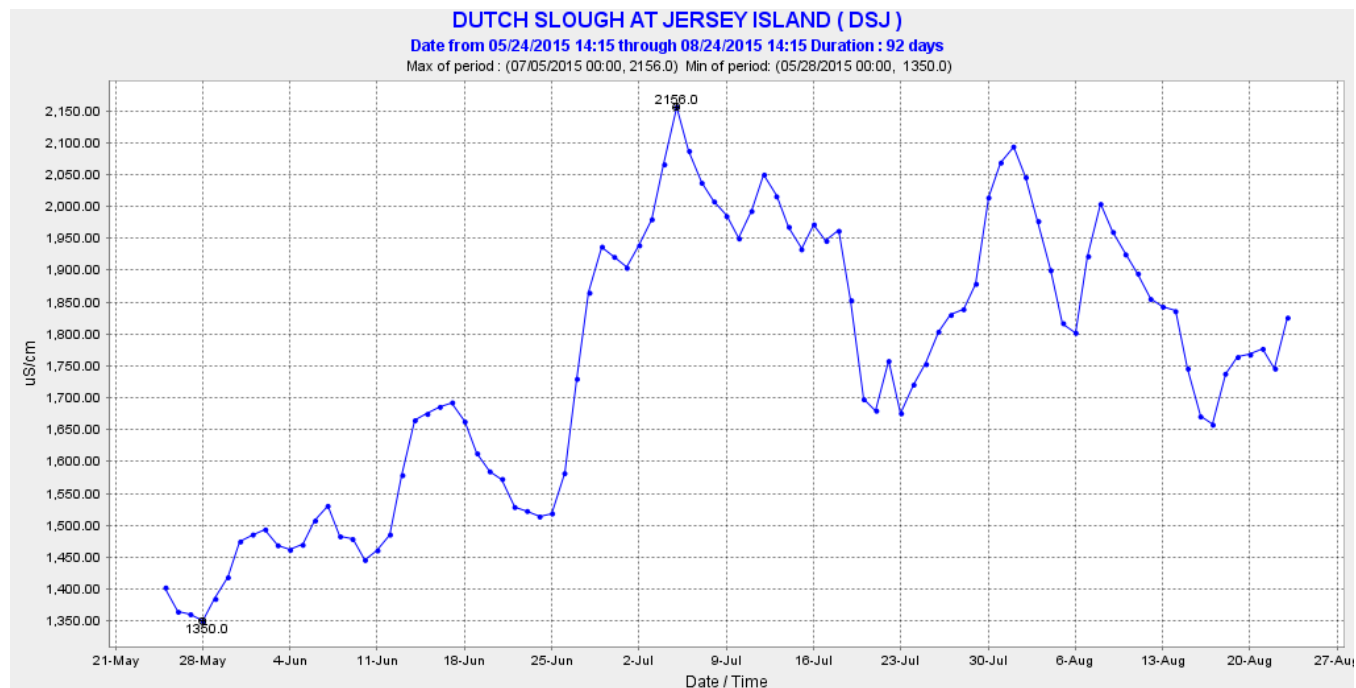


Specific Conductivity

During the past week, average daily specific conductivity (EC) levels trended upwards at Dutch slough at Jersey Island (DSL) and at False River (FAL), but trended downward at San Joaquin River at Jersey Point (SJJ), Fisherman's Cut (FCT), and at Holland Cut (HOL). EC magnitudes are within the range experienced over the past 3 months since the barrier was closed at DSL, FAL, SJJ, and FCT. However, at HOL, average daily EC continues to decline from levels observed before the barrier was installed and has now dipped below 700 $\mu\text{S}/\text{cm}$.

¹ All data in this report and subsequent weekly reports posted to California Data Exchange Network (CDEC) are preliminary and have not yet been validated.

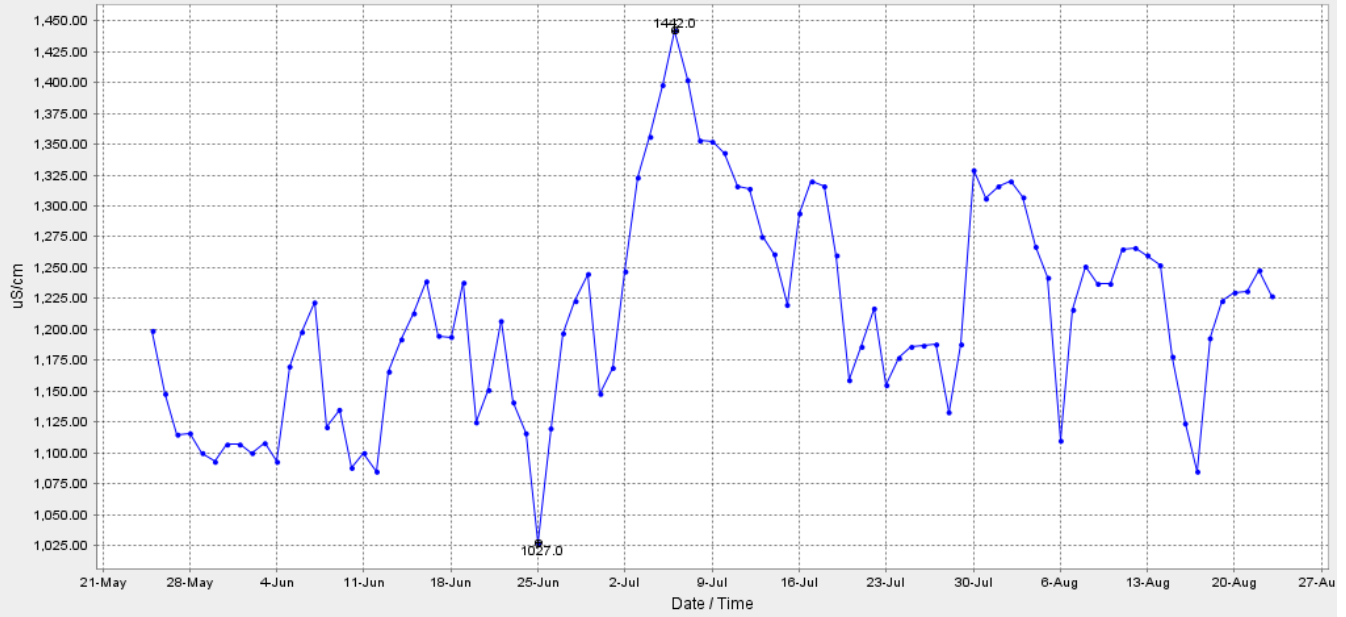
Daily average EC values for five stations in the vicinity of the EDB:



FALSE RIVER (FAL)

Date from 05/24/2015 14:21 through 08/24/2015 14:21 Duration : 92 days

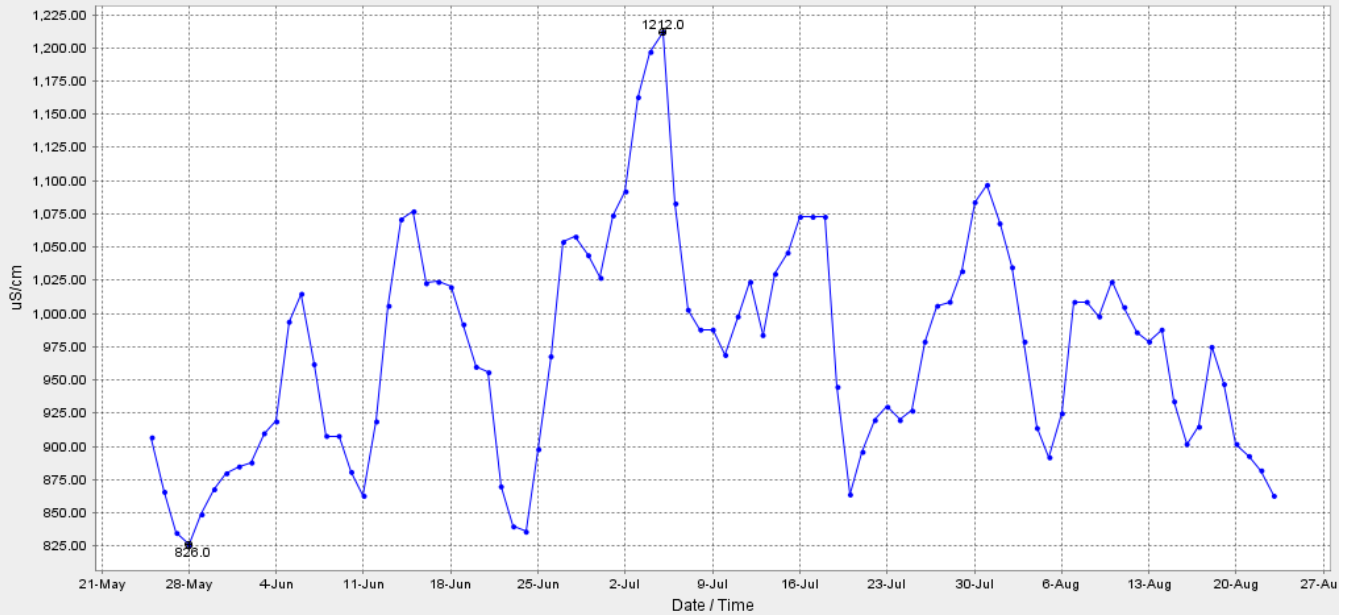
Max of period : (07/06/2015 00:00, 1442.0) Min of period: (06/25/2015 00:00, 1027.0)

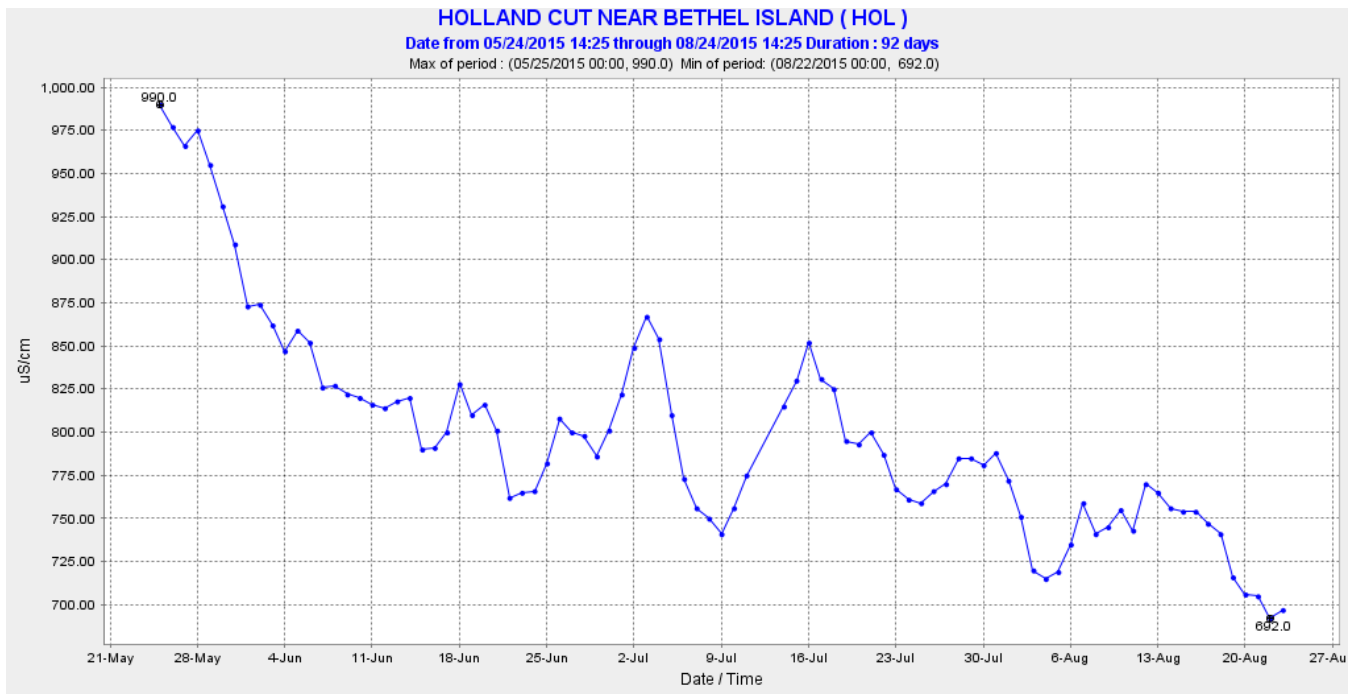


FISHERMANS CUT (FCT)

Date from 05/24/2015 14:23 through 08/24/2015 14:23 Duration : 92 days

Max of period : (07/05/2015 00:00, 1212.0) Min of period: (05/28/2015 00:00, 826.0)

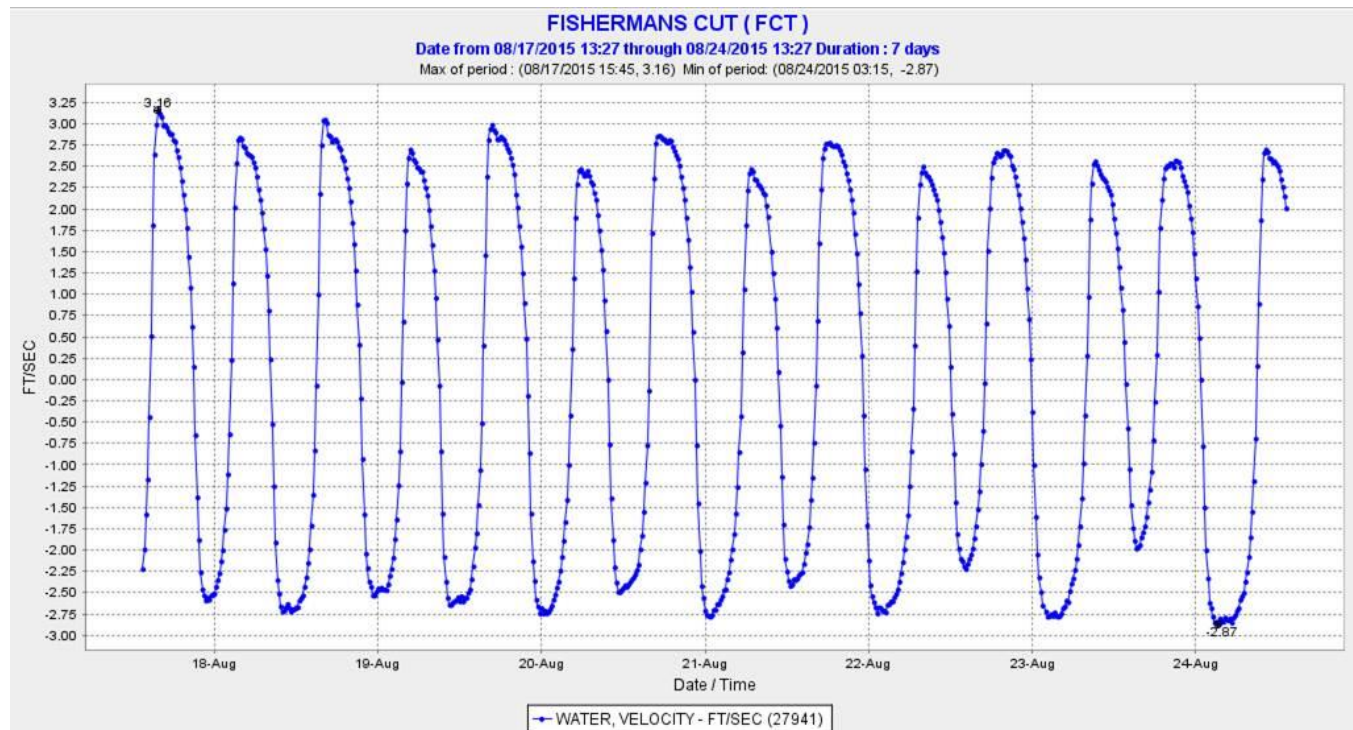




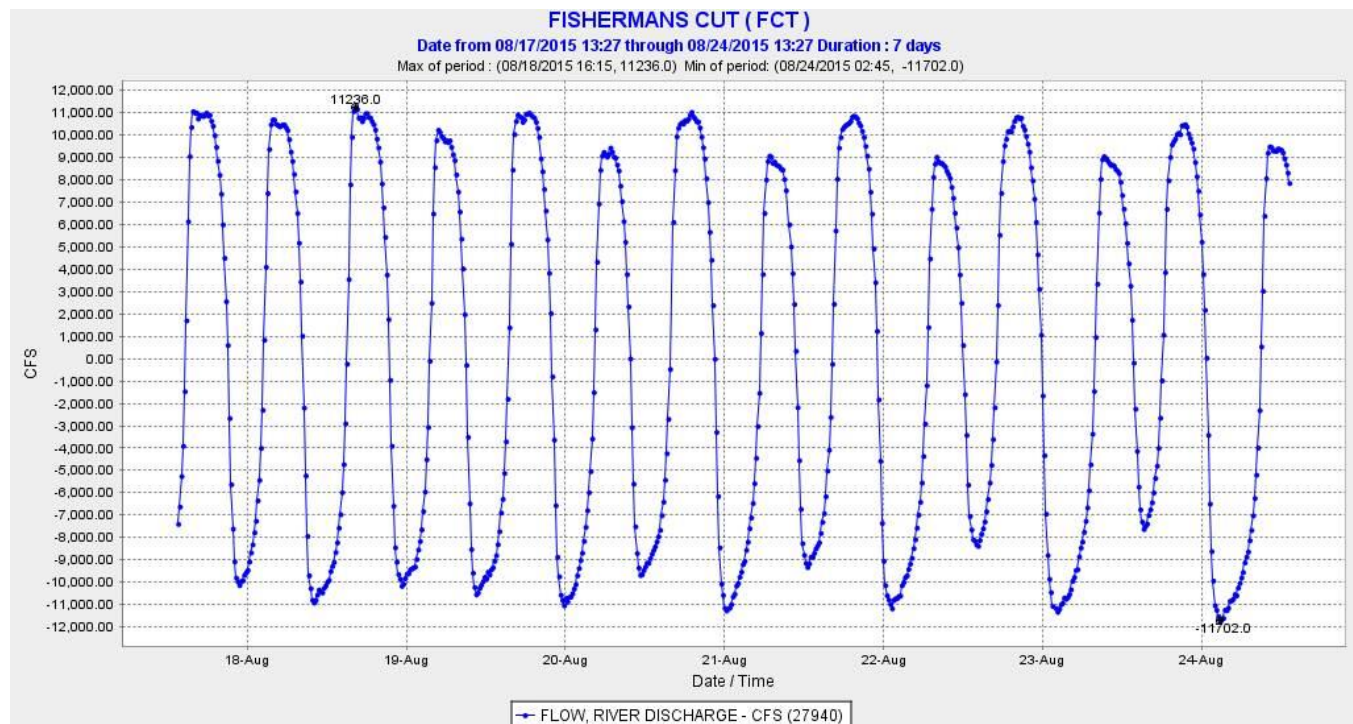
Flow and Velocity

Fisherman's Cut experienced a neap tide during the week of August 17 through August 24. Peak water velocities at the FCT flow station varied between +3.16 ft/s (8/17/15 at 15:45) and -2.87 ft/s (8/24/15 at 03:15). While the barrier is in place, positive water velocities measured at this station refer to water flowing into Fisherman's Cut southward from the San Joaquin River. Thus, last week's peak water velocity of +3.16 ft/s occurred during a flood tide. Flows appear to have varied between +11,236 cfs (8/18/15 at 16:15) and -11,702 cfs (8/24/15 at 02:45) indicating a higher peak flow during an ebb tide. Our vertical beam filtering algorithm which had been causing problems with the calculation of flows and velocities has been temporarily disabled until we finish testing new datalogger code to replace the older algorithm. In the meantime, water hyacinth has not been much of a problem blocking the ADCP's vertical beam over the last week. As such, last week's real-time data for FCT is fairly true and will require little QC work. As a reminder, QC'd Fisherman's Cut flow and velocity data can be obtained from the Water Data Library (WDL) using the station code B95050Q. Note that the WDL data is usually not up-to-date as the system gets updated every Thursday. Below are the velocity and flow plots for the last week of data.

15-Minute velocities for FCT in the vicinity of the emergency drought barrier:



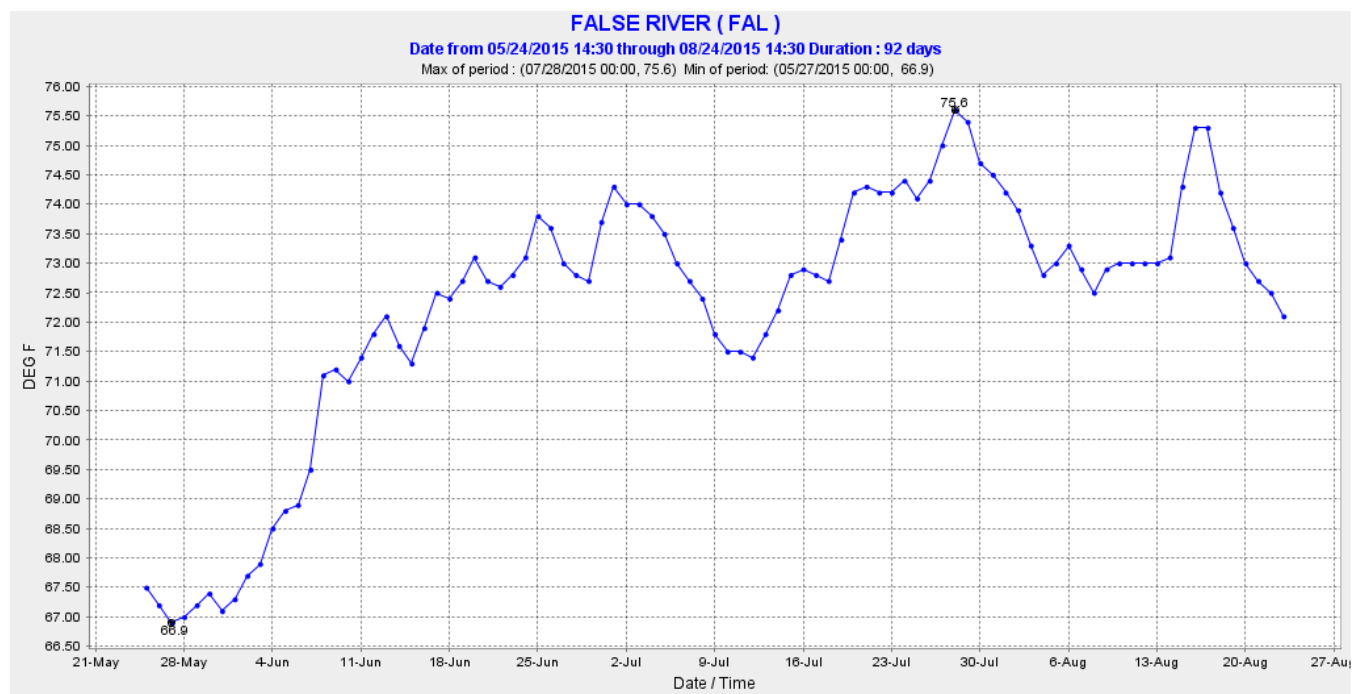
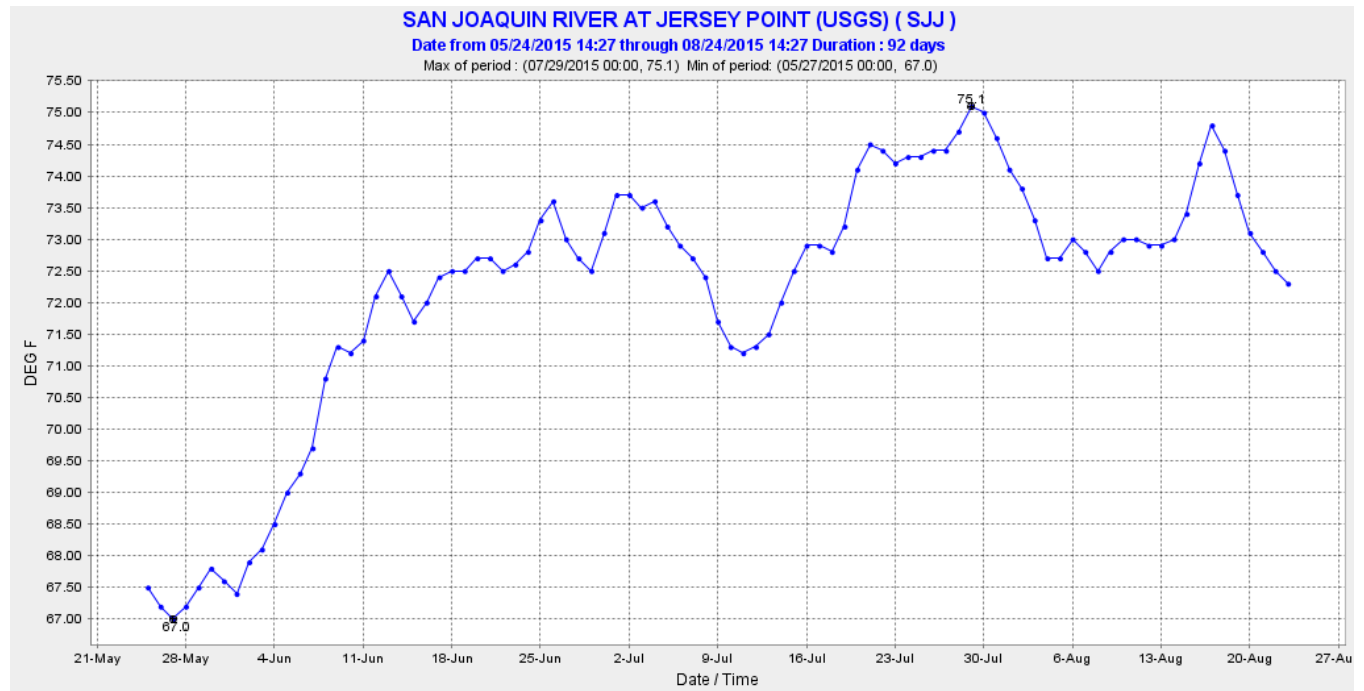
15-Minute flows for FCT in the vicinity of the emergency drought barrier:



Water Temperatures

During the past week water temperatures have decreased sharply by more than 2 °F at SJJ and more than 3 °F at FAL.

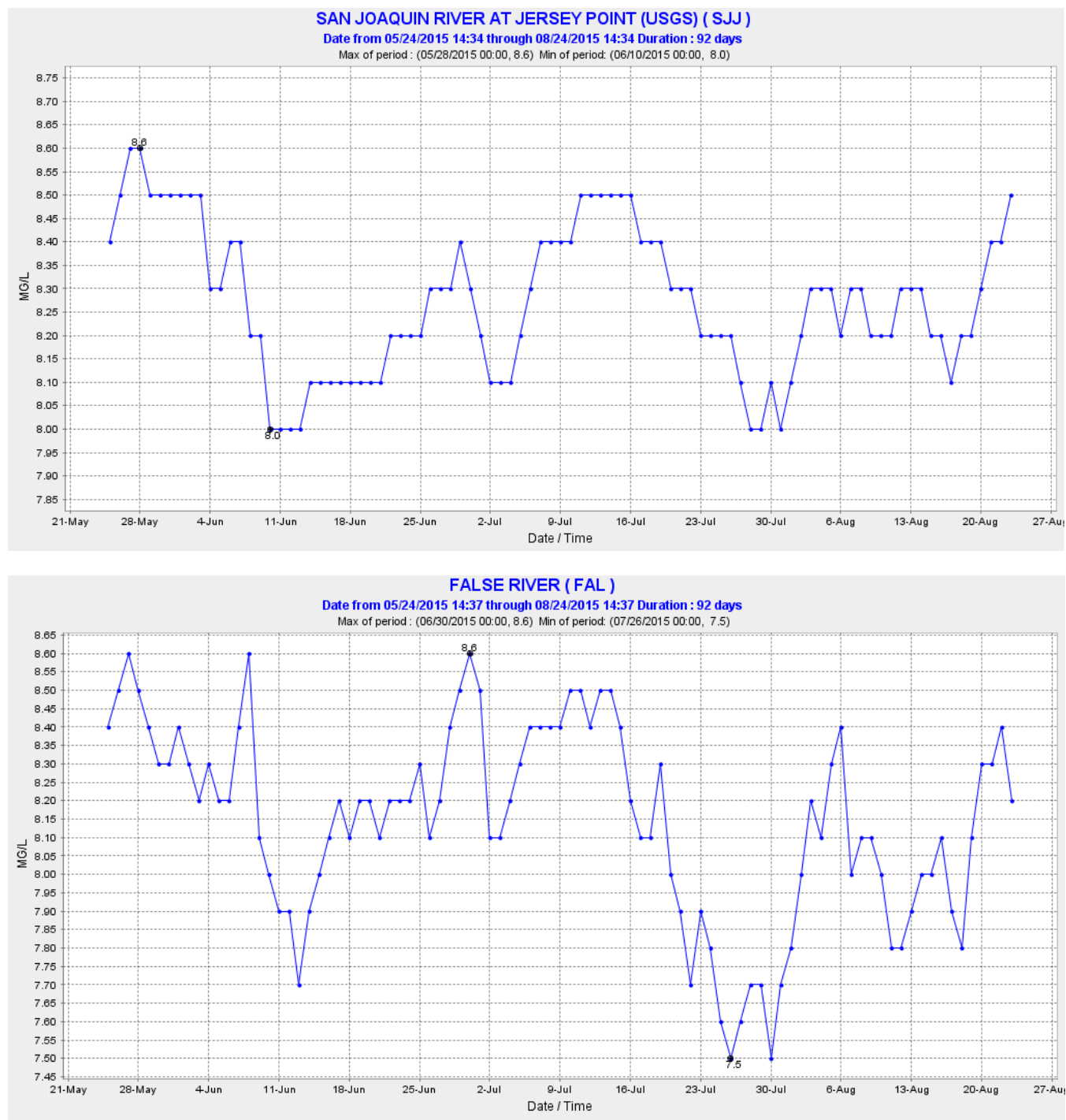
Daily average temperature for stations immediately upstream and downstream of the EDB:



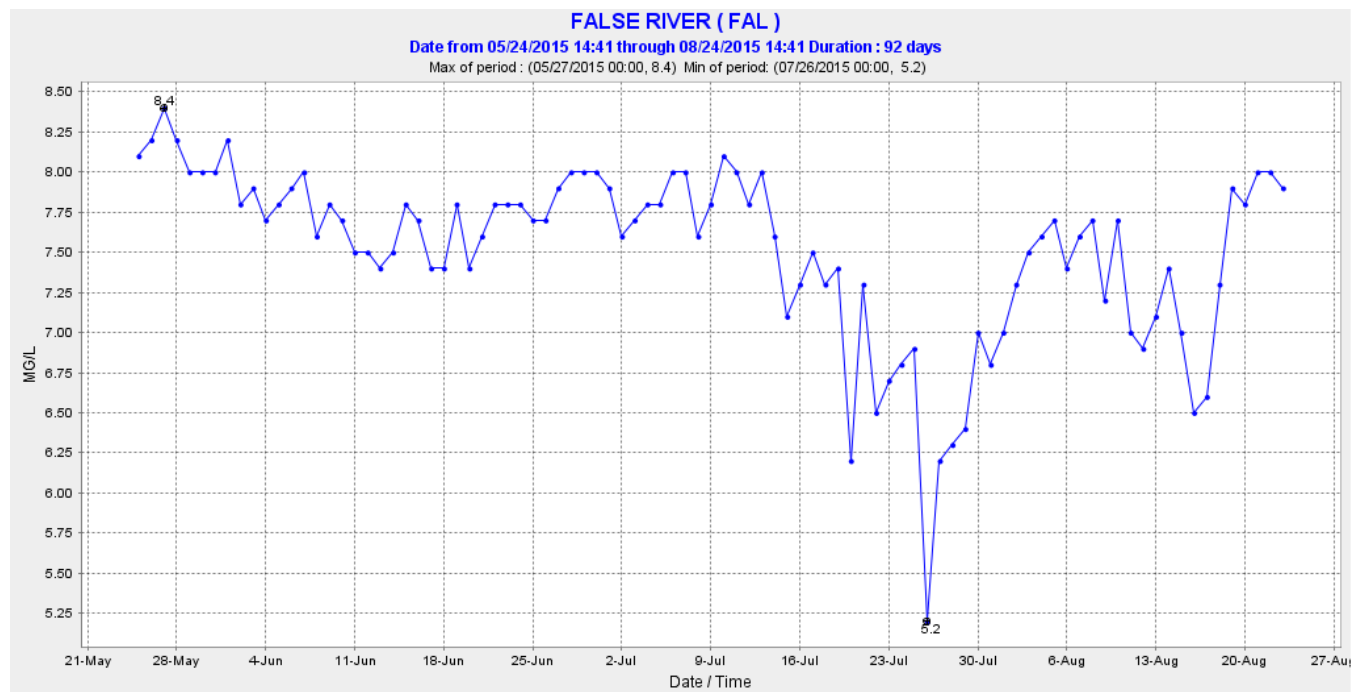
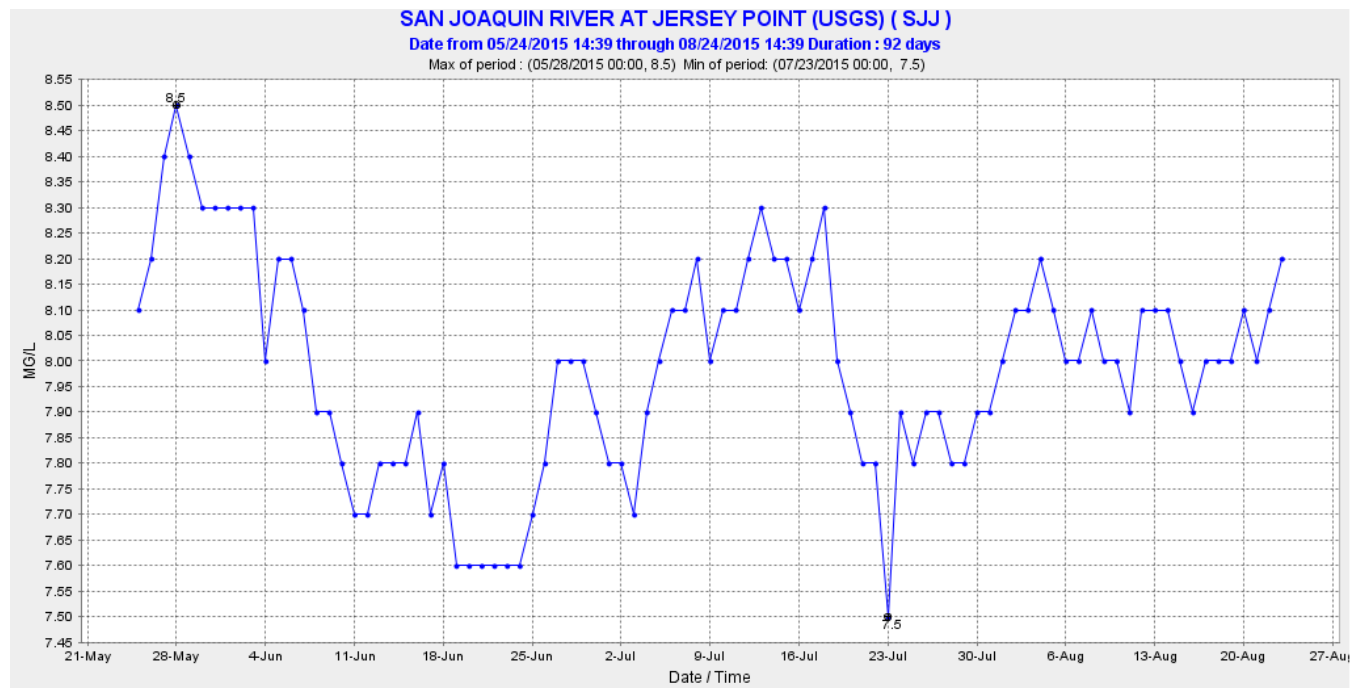
Dissolved Oxygen

Average daily dissolved oxygen (DO) increased during the week by about 0.4 mg/L to well over 8.0 mg/L at the FAL and SJJ stations. Minimum DO levels for the two stations have increased during the past week and remained well above the 5.0 mg/l water quality criterion for aquatic life, as they have remained since the barrier was installed.

Daily average DO for stations immediately upstream and downstream of the EDB:



Daily minimum DO for stations immediately upriver and downriver of the EDB:



Summary of EC data ($\mu\text{S}/\text{cm}$) by station for the period of August 17 through August 23, 2015.

Station	Mean	Median	Minimum	Maximum	Area
Suisun Bay - Cutoff near Ryer (RYC)	18772	18784	14702	22243	Grizzly Bay to Lower Sac River
Grizzly Bay (GZL)	22280	22378	19756	24327	
Sacramento River near Sherman Island (SSI)	5580	5479	1646	9664	Dutch Slough
Dutch Slough @ Jersey Island (DSJ)	1759	1750	1510	2120	
San Joaquin River @ Jersey Point (SJJ)	1805	1680	1090	3470	Vicinity of EDB
Three Mile Slough at San Joaquin River (TSL)	1777	1630	1110	2760	
San Joaquin River @ Twitchell Island (TWI)	1278	1264	708	2002	
Fisherman's Cut (FCT)	909	857	629	1376	
False River (FAL)	1206	1220	1040	1290	Frank's Tract
Bethel Island near Piper Slough (BET)	960	944	918	1081	
Franks Tract Mid (FRK)	807	801	772	845	
Old River near Frank's Tract near Terminous (OSJ)	619	617	532	749	
Holland Cut near Bethel Island (HOL)	716	703	658	878	North Delta/Cache Slough
Sacramento River downstream of Isleton (SOI)	304	280	151	657	
Steamboat Slough near Sacramento River (SXS)	205	174.5	157	346	
Cache Slough @ Ryer Island (RYI)	206	197	179	272	
Liberty Island @ Approx Cntr S End (LIB)	199	200	180	232	
Miner Slough (MIR)	180	175	153	224	
Steamboat Slough downstream of Sutter Slough (SUS)	166	167	151	179	
Miner Slough @ HWY 84 Bridge (HWB)	166	168	149	177	

Mean specific conductance ($\mu\text{S}/\text{cm}$) for the period of August 17 through August 23, 2015.

